

MAR15-2014-020415

Abstract for an Invited Paper  
for the MAR15 Meeting of  
the American Physical Society

### **How Worms Eat**

CHRISTOPHER FANG-YEN, University of Pennsylvania

The nematode *C. elegans* feeds by rhythmic contractions of the pharynx, a neuromuscular tube which traps bacteria and transports them to the intestine. The pharynx is innervated by an almost independent nervous system composed of 20 neurons, most of unclear function. First, I will review previous studies using high speed video microscopy to understand how the pharynx filters and transports bacteria. Second, I will describe our efforts to understand the neural basis of feeding behavior using a novel method for optogenetic perturbation of single neurons in an intact, behaving animal.